

Power relays 25 - 30 A ATEX - HazLoc



2 Pole changeover (DPDT) or 2 NO (DPST) 30 A ATEX - HazLoc Power Relay

Type 66.82-xx03

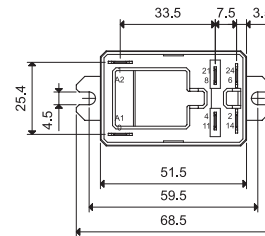
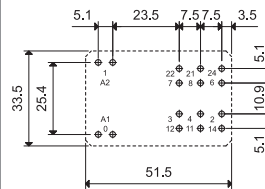
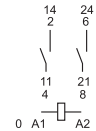
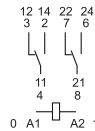
- Faston 250 connections and Flange mount

- Reinforced insulation between coil and contacts according to EN 60335-1; 8 mm creepage and clearance distances
- AC coils & DC coils
- Cadmium Free option available
- **ATEX** compliant (EX ec nC)
- **HazLoc** Class I Div. 2 Group A, B, C, D - T4 - T5 - T6

66.82-xx03



- 30 A rated contacts
- Flange mount
- Faston 250 connections



2 CO (nPDT)

2 NO (nPST)

For outline drawing see page 10

Contact specification

Contact configuration		2 CO (nPDT) or 2 NO (nPST)
Rated current/Maximum peak current	A	30/50 (NO) - 10/20 (NC)
Rated voltage/Maximum switching voltage	V AC	250/440
Rated load AC1	VA	7500 (NO) - 2500 (NC)
Rated load AC15 (230 V AC)	VA	1200 (NO)
Single phase motor rating (230 V AC)	kW	1.5 (NO)
Breaking capacity DC1: 24/110/220 V	A	25/0.7/0.3
Minimum switching load	mW (V/mA)	1000 (10/10)
Standard contact material		AgCdO

Coil specification

Nominal voltage (U _N)	V AC (50/60 Hz)	6 - 12 - 24 - 110/115 - 120/125 - 230 - 240
	V DC	6 - 9 - 12 - 24 - 110 - 125
Rated power AC/DC	VA (50 Hz)/W	3.6/1.7
Operating range	AC	(0.8...1.1)U _N
	DC	(0.8...1.1)U _N
Holding voltage	AC/DC	0.8 U _N / 0.5 U _N
Must drop-out voltage	AC/DC	0.2 U _N / 0.1 U _N

Technical data

Mechanical life AC/DC	cycles	10 · 10 ⁶
Electrical life at rated load AC1	cycles	100 · 10 ³
Operate/release time	ms	8/10
Insulation between coil and contacts (1.2/50 μs)	kV	6 (8 mm)
Dielectric strength between open contacts	V AC	1500
Ambient temperature range	°C	-40...+70
Environmental protection		RT III

Approvals (according to type)



2 Pole for PCB or faston mounting ATEX - HazLoc Power Relay

Type 66.22-xx03S

- PCB mount 2 pole changeover (nPDT) 25 A or 2 pole NO (DPST) 25 A, 5 mm gap between PCB and relay base

Type 66.22-x603S

- PCB mount, 2 pole NO (nPST-NO) ≥ 1.5 mm contact gap 25 A Power relay, 5 mm gap between PCB and relay base

Type 66.82-x603

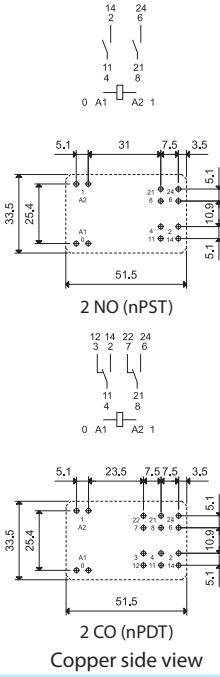
- Faston 250 connections and Flange mount, 2 pole NO (nPST-NO) ≥ 1.5 mm contact gap 30 A Power relay

- ≥ 1.5 mm contact gap (according to VDE 0126-1-1 for solar inverter applications)
- Reinforced insulation between coil and contacts according to EN 60335-1; 8 mm creepage and clearance distances
- DC coils
- Cadmium Free option available
- **ATEX** compliant (EX ec nC)
- **HazLoc** Class I Div. 2 Group A, B, C, D - T4 - T5 - T6

66.22-xx03S



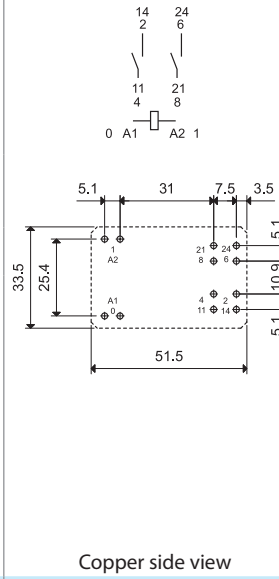
- PCB mount - bifurcated terminals



66.22-x603S



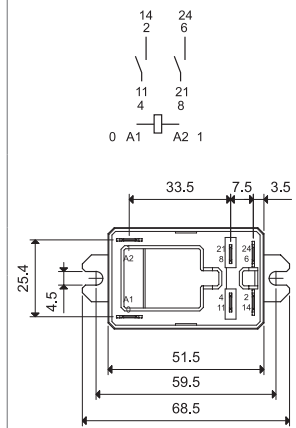
- PCB mount - bifurcated terminals
- 5 mm gap between PCB and relay base



66.82-x603



- Flange mount
- Faston 250 connections



For outline drawing see page 10

Contact specification

Contact configuration		2 CO (nPDT) or 2 NO (nPST)	2 NO (DPST-NO)	2 NO (nPST-NO)
Rated current/Maximum peak current	A	25/50 (NO) - 10/20 (NC)	25/50	30/50
Rated voltage/Maximum switching voltage	V AC	250/440	250/440	250/440
Rated load AC1	VA	6250 (NO) - 2500 (NC)	6250	7500
Rated load AC15 (230 V AC)	VA	1200 (NO)	1200	1200
Single phase motor rating (230 V AC)	kW	1.5 (NO)	1.5	1.5
Breaking capacity DC1: 24/110/220 V	A	25/0.7/0.3 (NO)	25/1.2/0.5	25/0.7/0.3
Minimum switching load	mW (V/mA)	1000 (10/10)	1000 (10/10)	1000 (10/10)
Standard contact material		AgCdO	AgSnO ₂	AgCdO

Coil specification

Nominal voltage (U _N)	V DC	6 - 9 - 12 - 24 - 110 - 125		
Rated power AC/DC	VA (50 Hz)/W	—/1.7	—/1.7	—/1.7
Operating range	AC	—	—	—
	DC	(0.7...1.1)U _N	(0.8...1.1)U _N	(0.8...1.1)U _N
Holding voltage	AC/DC	—/0.5 U _N	—/0.5 U _N	—/0.5 U _N
Must drop-out voltage	AC/DC	—/0.1 U _N	—/0.1 U _N	—/0.1 U _N

Technical data

Mechanical life	cycles	10 · 10 ⁶	10 · 10 ⁶	10 · 10 ⁶
Electrical life at rated load AC1	cycles	100 · 10 ³	100 · 10 ³	100 · 10 ³
Operate/release time	ms	15/4	15/4	15/4
Insulation between coil and contacts (1.2/50 μs)	kV	6 (8 mm)	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	2500	2500	2500
Ambient temperature range	°C	−40...+70	−40...+70	−40...+70
Environmental protection		RT III	RT III	RT III

Approvals (according to type)



Ordering information

Example: 66 series relay, Faston 250 (6.3 x 0.8 mm) with top flange mount, 2 CO (DPDT) 30 A contacts, 24 V DC coil.

	6	6	.	8	.	2	.	9	.	0	2	4	.	A	0	B	0	C	0	D	3	.	S
Series																							
Type																							
2 = PCB																							
8 = Faston 250 (6.3 x 0.8 mm) with top flange mount																							
No. of poles																							
2 = 2 pole 30 A																							
2 = 2 pole 25 A (S version)																							
Coil version																							
8 = AC (50/60 Hz)																							
9 = DC																							
Coil voltage																							
See coil specifications																							

A: Contact material
0 = AgCdO
1 = AgNi

B: Contact circuit
0 = CO (nPDT)
3 = NO (nPST)
6 = NO (nPST), ≥ 1.5 mm contact gap

D: Special versions
3 = ATEX (Ex ec nC) and HazLoc Class I Div. 2 compliant

C: Options
0 = None

S = PCB version with 5 mm gap between PCB and relay base (only 66.22 ATEX/HazLoc versions)

ATEX/HAZLOC versions: only combinations in the same row are possible.

Type	Coil version	A	B	C	D
66.22...S	DC	0 - 1	0 - 3 - 6	0	3
66.82	AC - DC	0 - 1	0 - 3	0	3
	DC	0 - 1	6	0	3

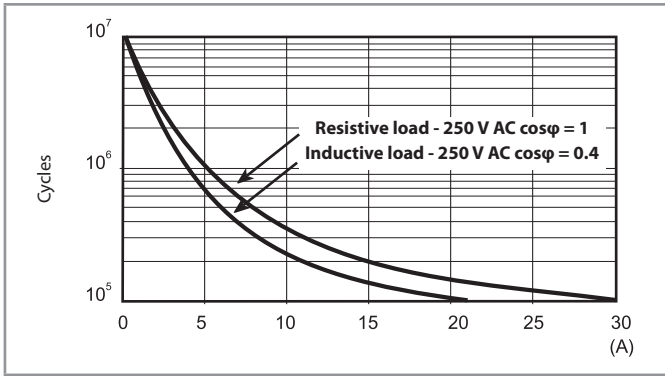
Technical data

Insulation according to EN 61810-1			
Nominal voltage of supply system	V AC	230/400	
Rated insulation voltage	V AC	400	
Pollution degree		3	
Insulation between coil and contact set			
Type of insulation		Reinforced (8 mm)	
Overvoltage category		III	
Rated impulse voltage	kV (1.2/50 μs)	6	
Dielectric strength	V AC	4000	
Insulation between adjacent contacts			
Type of insulation		Basic	
Overvoltage category		III	
Rated impulse voltage	kV (1.2/50 μs)	4	
Dielectric strength	V AC	2500	
Insulation between open contacts			
Type of disconnection		2 CO: Micro-disconnection 2 NO, ≥ 1.5 mm (x603 version): Full-disconnection*	
Overvoltage category		— / II	
Rated impulse voltage	kV (1.2/50 μs)	— / 2.5	
Dielectric strength	V AC/kV (1.2/50 μs)	1500/2 / 2500/2.5	
Insulation between coil terminals			
Rated impulse voltage (surge) differential mode (according to EN 61000-4-5)	kV (1.2/50 μs)	4	
Other data			
Bounce time: NO/NC	ms	7/10	
Vibration resistance (10...150)Hz: NO/NC	g	20/19	
Shock resistance	g	20	
Power lost to the environment	without contact current	W	2.3
	with rated current	W	5
Recommended distance between relays mounted on PCB	mm	≥ 10	

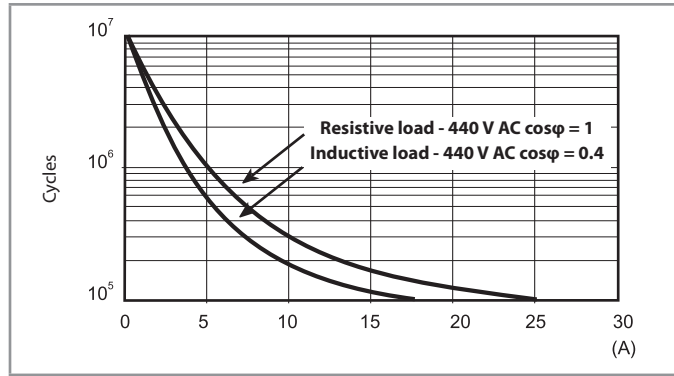
* Only in applications where over voltage category II is permitted. In applications of over voltage category III: Micro-disconnection.

Contact specification

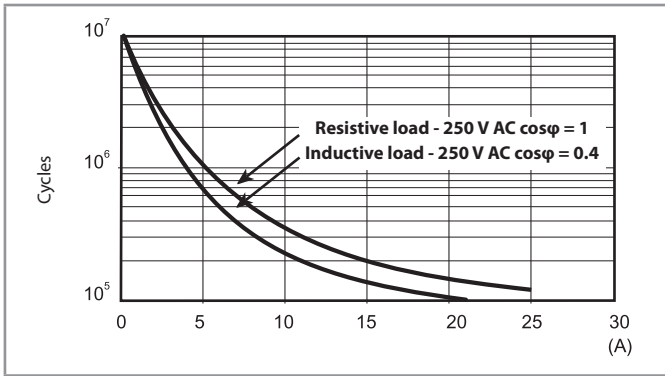
F 66-1 Electrical life (AC) v contact current - Type 66.82
250 V (normally open contact)



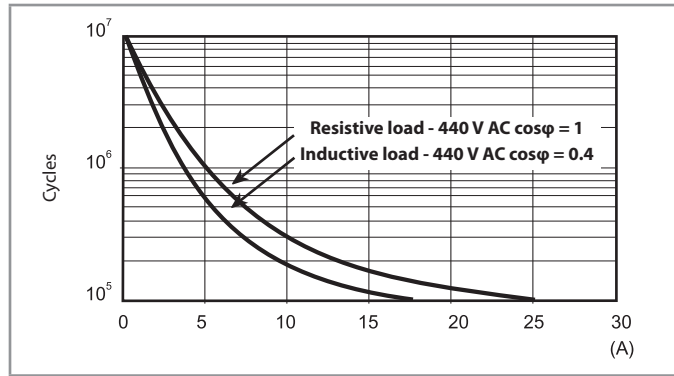
F 66-2 Electrical life (AC) v contact current - Type 66.82
440 V (normally open contact)



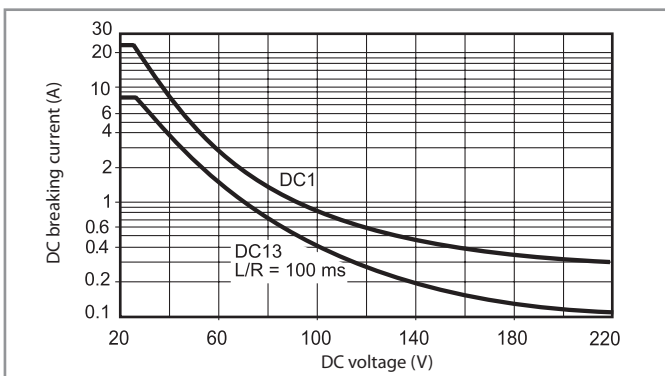
F 66-3 Electrical life (AC) v contact current - Type 66.22
250 V (normally open contact)



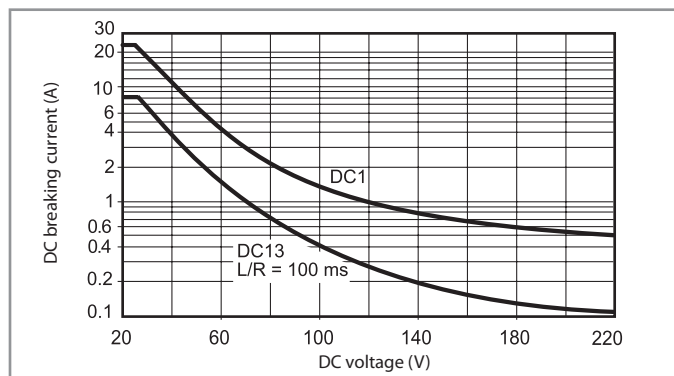
F 66-4 Electrical life (AC) v contact current - Type 66.22
440 V (normally open contact)



H 66-1 Maximum DC breaking capacity



H 66-2 Maximum DC breaking capacity, x60x versions (> 1.5 mm contact gap)



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of $\geq 100 \cdot 10^3$ can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load.
Note: the release time for the load will be increased.

Coil specifications

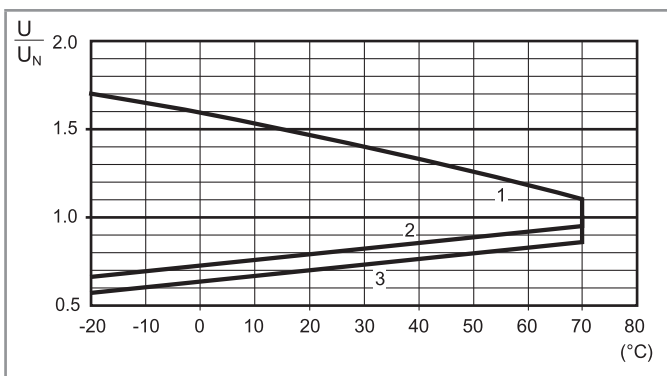
DC coil data

Nominal voltage U_N	Coil code	Operating range		Resistance R	Rated coil Consumption I at U_N
		U_{min}	U_{max}		
V		V	V	Ω	mA
6	9.006	4.8	6.6	21	283
9	9.009	7.2	9.9	45	200
12	9.012	9.6	13.2	85	141
24	9.024	19.2	26.4	340	70.5
110	9.110	88	121	7000	15.7
125	9.125	100	138	9200	13.6

AC coil data

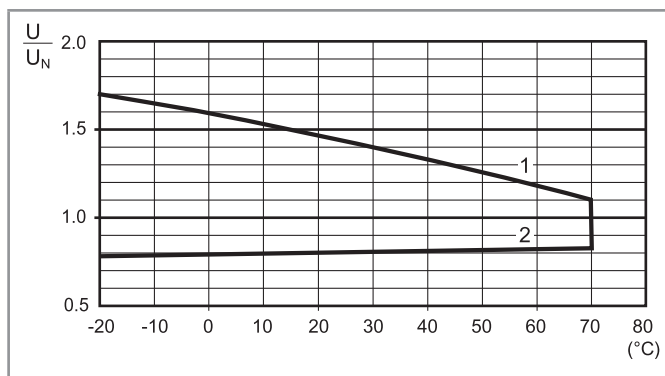
Nominal voltage U_N	Coil code	Operating range		Resistance R	Rated coil Consumption I at U_N (50 Hz)
		U_{min}	U_{max}		
V		V	V	Ω	mA
6	8.006	4.8	6.6	3	600
12	8.012	9.6	13.2	11	300
24	8.024	19.2	26.4	50	150
110/115	8.110	88	126	930	32.6
120/125	8.120	96	137	1050	30
230	8.230	184	253	4000	15.7
240	8.240	192	264	5500	15

R 66-1 DC coil operating range v ambient temperature



- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.
- 3 - Min. pick-up voltage with coil at ambient temperature (66.22-x603S)

R 66-2 AC coil operating range v ambient temperature



- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.

Special condition for safe use

The component must be placed inside an enclosure that ensures a degree of protection IP 54 (or greater) according to standard EN 60529 and EN 60079-0 and that complies with the requirements of type of protection "Ex e" and EPL Gc (or better).

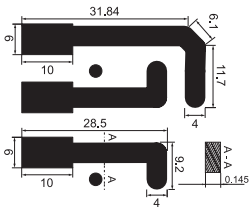
Wiring

The cross-section of conductors connected to the terminals, must be at least 4 mm² for the Type 66.82.


The connections must be made in compliance with the requirements of clause 4.2 of EN IEC 60079-7:2015+A1:2018.

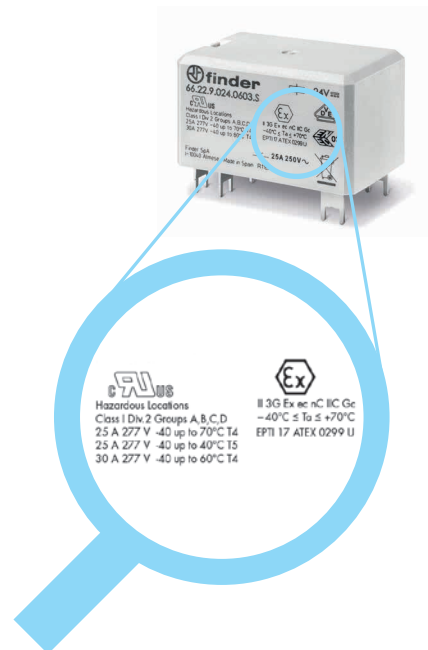
Layout pcb

The minimum cross-section of the tracks of the printed circuit board must be 0.58 mm², while the width must be at least 4.01 mm for Type 66.22...S.



Markings - ATEX versions - ATEX, II 3G Ex ec nC IIC Gc

MARKING	
	Specific marking of explosion protection
II	Component for surface plant (different from mines)
3	Category 3: normal level of protection
GAS	G Explosive atmosphere due to presence of combustible gas vapour or mist
	Ex ec Increased safety (type of protection for category 3G)
	Ex nC Sealed device (type of protection for category 3G)
	IIC Gas group
	Gc Equipment Protection Level
-40 °C ≤ Ta ≤ +70 °C Ambient temperature	
EPTI 17 ATEX 0299 U EPTI: laboratory which issues the voluntary type certificate 17: year of issue of certificate 0299: number of CE type certificate	
U: Ex component	
Xyy: production batch identification (X year, yy week)	



Markings - Hazardous Location Class I Div. 2 Groups A, B, C, D - T4 - T5 - T6 and other data

HazLoc Class I Div. 2 Group A, B, C, D - T4 - T5 - T6		Meaning
Class I		Areas in which flammable gases and vapours may be present
Div. 2		Low probability to find ignitable concentration of hazards because are typically present in containers or closed systems from which can escape through their accidental rupture or breakdown
Group A, B, C, D		Kind of combustible, flammable gases and vapours can be in the atmosphere.
Permissible Surface temperature		
T4	135 °C	275 °F
T5	100 °C	212 °F
T6	85 °C	185 °F

Model	T4				
	Type of load	Voltage	Current/Power	Temperature °C	Note
66.22	DC General Use Res Heating	30 V	25 A	-40...+70	only 66.xx.9.x6x3
66.22/66.82	AC Motor Starting, Discharge Lamps Break All lines	240 V	2 Hp	-40...+70	12FLA/69 LRA
		120 V	1 Hp		16FLA/96 LRA
		120 V	1/2 Hp		9.8FLA/58.8 LRA

Model	T5				
	Type of load	Voltage	Current/Power	Temperature °C	Note
66.22.x.xxx.xxx3S	DC General Use Res Heating	30 V	30 A	-40...+60	only 66.xx.9.x6x3
	AC Motor Starting, Discharge Lamps Break All lines	240 V	2 Hp	-40...+60	12FLA/69 LRA
		120 V	1 Hp		16FLA/96 LRA
		120 V	1/2 Hp		9.8FLA/58.8 LRA
T6					
	Type of load	Voltage	Current	Temperature °C	—
	AC General Use	277 V	10 A (NC)	-40...+70	—

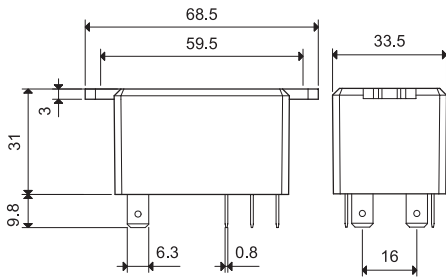
Model	T5				
	Type of load	Voltage	Current/Power	Temperature °C	Note
66.82.x.xxx.xxx3S	AC General Use	277 V	25 (NO)	-40...+40	—
	DC General Use	30 V	30 A	-40...+60	only 66.xx.9.x6x3
	AC Motor Starting, Discharge Lamps Break All lines	240 V	2 Hp	-40...+60	12FLA/69 LRA
		120 V	1 Hp		16FLA/96 LRA
		120 V	1/2 Hp		9.8FLA/58.8 LRA
T6					
	Type of load	Voltage	Current	Temperature °C	—
	AC General Use	277 V	10 A (NC)	-40...+70	—

HazLoc - Electrical characteristics

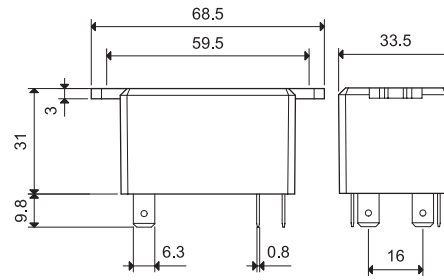
Contact specification HazLoc		HazLoc Class I Div. 2 T4 @ 60°C	HazLoc Class I Div. 2 T4 @ 70°C
Rated current/Maximum peak current	A	30/50 (NO) - 10/20 (NC)	25/50 (NO) - 10/20 (NC)
Rated voltage/Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	7500 (NO) - 2500 (NC)	6250 (NO) - 2500 (NC)
Rated load AC15	VA	1200 (NO)	1200 (NO)
Capacity for single phase motor (230 V AC)	kW	1.5 (NO)	1.5 (NO)
Breaking capacity DC1: 30/110/220 V	A	25/0.7/0.3 (NO)	25/0.7/0.3 (NO)
Characteristics of coil			
Rated voltage (U _N)	V AC (50/60 Hz)	6 - 12 - 24 - 110/115 - 120/125 - 230 - 240	
	V DC	6 - 12 - 24 - 110 - 125	
Rated Power AC/DC	VA (50 Hz)/W	3.6/1.7	
Operating range	AC/DC	(0.8...1.1)U _N	
General characteristics			
Ambient temperature	°C	-40...+70	

Outline drawings

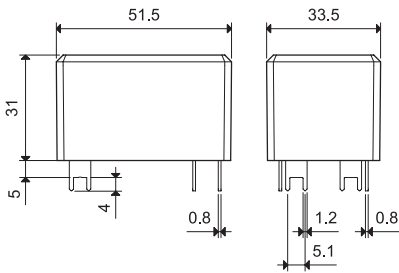
Type 66.82-x003



Type 66.82-x303/66.82-x603



Type 66.22-xx03S/66.22-x603S



Accessories



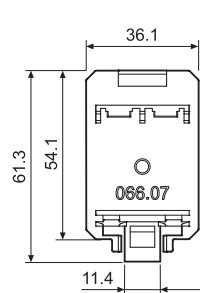
066.07



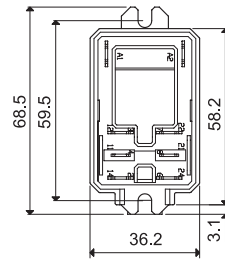
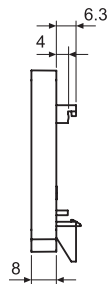
066.07 with relay

Top 35 mm rail (EN 60715) mount for types 66.82.x.xxx.xxx3

066.07



066.07



066.07 with relay

